\$50240B ATTACEMENT -Page 103 of 21t

# SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : EPOSC - BRANE/ANTI SKID FREA NO 05-638-2096 -1 REV: 04/24/29

:FWD PCA-1, 2 ASSEMBLY CRIT. FUNC: P/N RI :XC455-0129-0001 HDW: CRIT. P/N VENDOR: VEHICLE 102 103 104 QUANTITY :SIX EFFECTIVITY: ¥ X

:THREE PER CONTROL BOX PHASE(S): PL LO 00 DO X LS

SIX PER VEHICLE

DES AT OV A REDUNDANCY SCREEN: A-PASS B- (NASA) 5/3/85 A-PASS A-FAIL C-PASS PREPARED BY: Bate y DE5 J HERMAN RİĻ H YEW Wee. RTI. 5/1/97 W HIGGINS QΕ CE -EPPC SIM WENTER ETTO RELL

ITEM:

RELAY, GENERAL PURPOSE (4PZP) BRAKE SUB-BUS/WEIGHT-ON-WHEELS CIRCULT POWER. 81V76A22-K9, K12, K13, \$2V76A23-K11, K16, K17.

#### FUNCTION:

PROVIDES THE CAPABILITY TO INHIBIT THE APPLICATION OF BRAKES PRIOR TO WEIGHT-ON-WHEELS BEING SENSED.

#### FAILURE MODE:

FAILS CLOSED (INDICATES FALSE LANDING GEAR NO WEIGHT-ON-WREELS).

### CAUSE(S):

CONTAMINATION, PIECE PART FAILURE, VIBRATION, MECHANICAL SHOCK, THERMAL STRESS, PROCESSING ANOMALY

## EFFECT(S) ON:

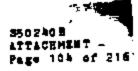
- (A) SUBSYSTEM (B) INTERFACES (C) MISSION (D) CREW/VEHICLE (E) FUNCTIONAL CRITICALITY EFFECT:
- (A.B) FIRST FAILURE RELAY WOULD BE CLOSED BUT NO BRAKE INHIBIT SIGNAL IS APPLIED UNTIL TWO ADDITIONAL RELAYS AND CLOSED.
- (C,D) FIRST, SECOND AND TRIRD PAILURE + MAKE INHIBIT IS APPLIED TO ONE OF TWO ANTI-SKID/BRAKE BOXES AND IT CAUSES LOSS OF FIFTY PERCENT BRAKING CAPABILITY. NO EFFECT TO NORMAL LANDING.
- (E) POSSIBLE LOSS OF CREW/VEHICLE IF VEHICLE BRAKING CAPABILITY IS LOST. REQUIRES THREE FAILURES (THREE RELAYS IN SERVICE) BEFORE EFFECT IS HAMIFESTED FOR TAL (TRANSATLANTIC ABORT LANDING). REQUIRES FIVE FAILURES (THREE RELAYS IN SERIES PLUS HAIM AND BACKUP SYSTEMS) BEFORE EFFECT IS MANIFESTED FOR MORBIAL LANDING.

FAILS "B" SCREEN RECAUSE RELAY POSITION IS NOT DETECTABLE IN FLIGHT.

## DISPOSITION & PATIGUALE:

(A) DESIGN (B) THET (C) INSPECTION (D) PAILING STATORY (S) OPERATIONAL USF:

(A-D) DISPOSITION AND RATIONALS REFER TO APPENDIX C. ITEM NO. 2 - GEMERAL PURPOSE RELAY.



# SEUTILE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : EPO4C - BRAKE/ANTI SEID FREA BO 05-4EB-1094 -1 REV:04/24/85

- (B) GROUND TURNAROUND TEST

  VERIFY RELAY CAPABILITY TO INHIBIT THE APPLICATION OF BRAKES PRIOR I
  WEIGHT-ON-WHEELS BEING SENSED BY PERFORMING VERIFICATION OF INBOARD AN
  OUTBOARD BRAKES 1, 2, 3 AND 4 FOR BOXES A AND 8 WHEN COMMANDER OR FILC
  BRAKE PIDAL IS FULLY DEFRESSED. TESTS ARE PERFORMED FOR EVERY FLIGHT AN
  LRU REPLACEMENT.
- (E) OPERATIONAL USE

  AFTER THIRD FAILURE (LOSS OF FIFTY PERCENT BRAKING WITH ANTI-SKID ON)
  COMMANDER CAN SWITCH ANTI-SKID OFF TO OFFAIR ONE HUNDRED PERCENT BRAKING WITHOUT ANTI-SKID PROTECTION.

